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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/617,806      | 07/14/2003  | JoAnn Arceneaux      | 2003-0962           | 4170             |

513 7590 11/21/2005

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EXAMINER

OH, TAYLOR V

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1625

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/617,806 | <b>Applicant(s)</b><br>ARCENEUX ET AL. |  |
|                              | <b>Examiner</b><br>Taylor Victor Oh  | <b>Art Unit</b><br>1625                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

The Status of Claims :

Claims 1-6 are pending.

Claims 1-6 have been rejected.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 , the phrase " substantial amounts of un-cross-linked polyesters" is recited. The expression is vague and indefinite because the word " substantial" does not elaborate how much the substantial amount of un-cross-linked polyesters has been retained during the process. Therefore, an appropriate correction is required.

***Claim Rejections - 35 USC § 103***

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vrancken et al (US 3,952,032) in view of Paulus et al (US 6,207,744).

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Vrancken et al discloses a process of producing an acrylated polyester resin by reacting a dimer acid, pentaerythritol, and acrylic acid (see col. 15, example 5) as shown below:

565 g. dimer acid containing 19-22% trimer and 5%  
monobasic unpolymerized acid (EMPOL 1022 of  
Emery Industries Inc., see description above)  
272 g. pentaerythritol  
576 g. acrylic acid  
400 g. benzene  
20 g. sulfuric acid ( $d = 1.84$ )  
1 g. cuprous oxide

This ester, of dark brown colour, has the following characteristics:

Viscosity: 600 poises at 25°C.

OH value: 25

acid value: 6

Acrylic unsaturation: 5.5 meq./g.

less than 0.1% by weight of residual benzene.

However, the instant invention differs from the prior art in that the claimed process is involved in the use of a mixture of at least 2 different polycarboxylic acids with at least 2 different tetraols; the three free hydroxyl groups retained in the resultant product are unspecified in the prior art process.

Paulus et al describes the preparation of prepolymers containing hydroxyl groups having at least free-radically or photochemically polymerizable  $\alpha,\beta$ -ethylenically unsaturated double bond (see col. 5, lines 5-8). For example, polyester acrylates is formed by condensing  $\alpha,\beta$ -ethylenically unsaturated dicarboxylic acids and their anhydrides with polyesterpolyols (see col. 5, lines 10-13); furthermore, the polyesterpolyols can be simply prepared by esterifying aliphatic, cycloaliphatic and

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aromatic polycarboxylic acids with polyols, such as erythritol, pentaerythritol (see col. 5 , lines 10-13).

Concerning the three free hydroxyl groups retained in the resultant product , the Vrancken et al does describe the final product having the OH value of 29 in example 1 (see col. 14 ,line 35). Furthermore, the prior art product with the OH value can be in the range of from 10 to 80 (see col. 13 ,lines 46-47). The claimed value and the prior art value do not overlap ,but are close enough that one skilled in the art would have expected them to have the similar properties. Therefore, it would have been obvious to the skilled artisan in the art to be motivated to reduce the number of free hydroxyl groups in the Vrancken et al product to the claimed three free hydroxyl groups in the resultant product by a routine experimentation in order to improve the quality of the desired product.

Vrancken et al expressly discloses the acrylated polyester resin useful for producing the hard, non-sticky film (see col. 21 ,lines 25-44) and similarly Paulus et al does describe that cured films acquire good mechanical properties if the hydroxyl-containing polyester acrylate prepolymer is used (see col. 4 ,lines 1-3). Therefore, it would have been obvious to the skilled artisan in the art to be motivated to incorporate the Paulus' et al polyester acrylates containing reaction products of at least 2 different polycarboxylic acids with at least 2 different tetraols into the Vrancken et al process.

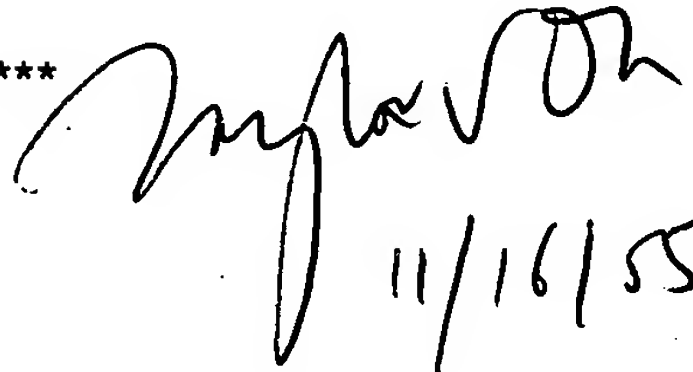
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This is because the skilled artisan in the art would expect such a combination to be useful for developing the film with good mechanical properties as shown in Paulus et al see col. 4 ,lines 1-3).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 571-272-0689. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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11/16/55